App No.: 10/511,937 Docket No.: 506612000104 Inventor: Jay Wohlgemuth

Title: METHODS AND COMPOSITIONS FOR DIAGNOSING AND MONITORING TRANSPLANT REJECTION

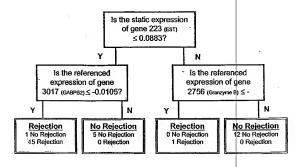
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Figure 7: Cardiac Allograft rejection diagnostic genes.

A.

12-0025-02 0 3.90 3.69 5.49 3.24 3.3 12-0024-04 0 3.66 4.05 5.69 3.75 3.0 15-0024-01 0 3.56 4.01 5.61 2.90 3.2 12-0029-03 0 3.44 3.12 4.25 3.55 3.0 12-0024-03 0 2.88 2.54 2.56 2.20 2.3 14-0021-05 0 1.31 1.03 1.07 0.91 0.9 14-0021-05 3A 0.42 0.27 0.51 0.22 0.2 14-0005-06 3A 0.42 0.27 0.51 0.22 0.2 14-0001-06 3A 0.93 0.71 0.58 0.37 0.4 14-001-06 3A 0.93 0.71 0.58 0.37 0.4 14-0001-06 3A 0.71 0.63 0.68 0.61 0.6 12-0012-02 3A 0.76 0.68 0.73 0.41 0.7 12-0012-02 3A 0.86 0.85 0.73 0.41 0.7 12-0011-01 3A 1.08 0.97 1.01 0.40 1.0 Average Grade 3A: 0.77 0.68 0.70 0.40 0.6							
12-0025-02 0 3.90 3.69 5.49 3.24 3.3 12-0024-04 0 3.66 4.05 5.69 3.75 3.0 15-0024-01 0 3.56 4.01 5.61 2.90 3.2 12-0029-03 0 3.44 3.12 4.25 3.55 3.0 12-0024-03 0 2.88 2.54 2.56 2.20 2.3 14-0021-05 0 1.31 1.03 1.07 0.91 0.9 14-0021-05 3A 0.42 0.27 0.51 0.22 0.2 14-0005-06 3A 0.42 0.27 0.51 0.22 0.2 14-0001-06 3A 0.93 0.71 0.58 0.37 0.4 14-001-06 3A 0.93 0.71 0.58 0.37 0.4 14-0001-06 3A 0.71 0.63 0.68 0.61 0.6 12-0012-02 3A 0.76 0.68 0.73 0.41 0.7 12-0012-02 3A 0.86 0.85 0.73 0.41 0.7 12-0011-01 3A 1.08 0.97 1.01 0.40 1.0 Average Grade 3A: 0.77 0.68 0.70 0.40 0.6			Marker Gene Expression Ratios				
12-0024-04 0 3.66 4.05 5.89 3.75 3.0 15-0024-01 0 3.56 4.01 5.61 2.90 3.2 15-0029-03 0 3.44 3.12 4.25 3.55 3.0 12-0029-03 0 2.88 2.54 2.56 2.20 2.3 14-0021-05 0 1.31 1.03 1.07 0.91 0.91 14-0025-06 3A 0.42 0.27 0.51 0.22 0.2 14-0012-07 3A' 0.60 0.62 0.70 0.42 0.6 14-0001-06 3A 0.93 0.71 0.58 0.37 0.4 14-0009-01 3A 0.71 0.63 0.68 0.61 0.61 0.61 12-0012-02 3A 0.86 0.85 0.73 0.41 0.63 12-0012-02 3A 0.86 0.85 0.73 0.41 0.63 0.86 0.61 0.6 0.61 0.64 0.65 0.73 0.41 0.65 0.87 0.47 0.88 0.77 0.48 0.76 2.68 0.87 0.89 0.89 0.89 0.77 0.41 0.60 0.60 0.85 0.73 0.41 0.77 0.88 0.77 0.41 0.76 2.68 0.78 0.78 0.78 0.78 0.78 0.78 0.78 0.7	Sample	Grade	3020	3019	2760	3018	85
15-0024-01 0 3.55 4.01 5.61 2.90 3.2 12-0029-03 0 3.44 3.12 4.25 3.55 3.0 12-0024-03 0 2.88 2.54 2.56 2.20 2.3 14-0021-05 0 1.31 1.03 1.07 0.91 0.9 14-0005-06 3A 0.42 0.27 0.51 0.22 0.2 14-0012-07 3A' 0.60 0.62 0.70 0.42 0.6 14-0001-06 3A 0.93 0.71 0.58 0.37 0.4 14-0009-01 3A 0.93 0.71 0.58 0.37 0.4 14-0009-01 3A 0.71 0.63 0.68 0.61 0.6 12-0012-02 3A 0.86 0.85 0.73 0.41 0.7 12-0011-01 3A 1.08 0.97 1.01 0.40 1.0  Average Grade 3E: 0.77 0.68 0.70 0.40 0.6	12-0025-02	0	3.90	3.69	5.49	3.24	3.34
12-0029-03 0 3.44 3.12 4.25 3.55 3.0 12-0024-03 0 2.88 2.54 2.56 2.20 2.3 14-0021-05 0 1.31 1.03 1.07 0.91 0.91 1.03 1.07 0.91 0.91 1.03 1.07 0.91 0.91 1.09 1.09 1.09 1.09 1.09 1.09	12-0024-04	0	3.66	4.05	5.89	3.75	3.03
12-0024-03 0 2.88 2.54 2.56 2.20 2.3 14-0021-05 0 1.31 1.03 1.07 0.91 0.91 14-0012-07 3A 0.42 0.27 0.51 0.22 0.6 14-0012-07 3A 0.60 0.62 0.70 0.42 0.6 14-0001-06 3A 0.93 0.71 0.58 0.37 0.4 14-0009-01 3A 0.71 0.83 0.68 0.61 0.4 12-0012-02 3A 0.86 0.85 0.73 0.41 0.7 12-0001-01 3A 1.08 0.97 1.01 0.40 1.0 Average Grade 3A: 0.77 0.68 0.70 0.40 0.6	15-0024-01	0	3.55	4.01	5.61	2.90	3.23
14-0021-05 0 1.31 1.03 1.07 0.91 0.9 14-0005-06 3A 0.42 0.27 0.51 0.22 0.2 14-0005-06 3A 0.60 0.62 0.70 0.42 0.6 14-0012-07 3A' 0.60 0.62 0.70 0.42 0.6 14-0001-06 3A 0.93 0.71 0.58 0.37 0.4 14-0009-01 3A 0.71 0.63 0.68 0.61 0.6 12-0012-02 3A 0.66 0.85 0.73 0.41 0.7 12-0011-01 3A 1.08 0.97 1.01 0.40 1.0  Average Grade 0: 3.13 3.07 4.14 2.76 2.6 Average Grade 3A: 0.77 0.68 0.70 0.40 0.6	12-0029-03	0	3.44	3.12	4.25	3.55	3.0
14-0005-06 3A 0.42 0.27 0.51 0.22 0.2 14-0012-07 3A' 0.60 0.62 0.70 0.42 0.6 14-0001-06 3A 0.93 0.71 0.59 0.37 0.4 14-0009-01 3A 0.71 0.63 0.68 0.61 0.6 12-0012-02 3A 0.86 0.85 0.73 0.41 0.6 12-0012-02 3A 0.86 0.85 0.73 0.41 0.6 12-0012-01 3A 1.08 0.97 1.01 0.40 1.0 Average Grade 3A: 0.77 0.68 0.70 0.40 0.6	12-0024-03	0	2.88	2.54	2.56	2.20	2.3
14-0012-07 3A 0.60 0.62 0.70 0.42 0.61 14-0001-06 3A 0.93 0.71 0.58 0.37 0.41 14-0009-01 3A 0.71 0.63 0.68 0.61 0.61 12-0012-02 3A 0.86 0.85 0.73 0.41 0.72 12-0001-01 3A 1.08 0.97 1.01 0.40 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.	14-0021-05	0	1.31	1.03	1.07	0.91	0.99
14-0001-06 3A 0.93 0.71 0.58 0.37 0.4 14-0009-01 3A 0.71 0.63 0.68 0.61 0.6 12-0012-02 3A 0.86 0.85 0.73 0.41 0.7 12-0001-01 3A 1.08 0.97 1.01 0.40 1.0 Average Grade 3E 0.77 0.88 0.70 0.40 0.6 Average Grade 3E 0.77 0.88 0.70 0.40 0.6	14-0005-06	3A	0.42	0.27	0.51	0.22	0.20
14-0009-01 3A 0.71 0.63 0.68 0.61 0.6 12-0012-02 3A 0.66 0.85 0.73 0.41 0.7 12-0001-01 3A 1.08 0.97 1.01 0.40 1.0 Average Grade 0: 3.13 3.07 4.14 2.76 2.6 Average Grade 3A: 0.77 0.68 0.70 0.40 0.6	14-0012-07	3A*	0.60	0.62	0.70	0.42	0.6
12-0012-02 3A 0.86 0.85 0.73 0.41 0.7 12-0001-01 3A 1.08 0.97 1.01 0.40 1.0 Average Grade 0: 3.13 3.07 4.14 2.76 2.8 Average Grade 3A: 0.77 0.68 0.70 0.40 0.6	14-0001-06	3A	0.93	0.71	0.58	0.37	0.4
12-0001-01 3A 1.08 0.97 1.01 0.40 1.0 Average Grade 0: 3.13 3.07 4.14 2.76 2.6 Average Grade 3A: 0.77 0.68 0.70 0.40 0.6	14-0009-01	3A	0.71	0.63	0.68	0.61	0.6
Average Grade 0: 3.13 3.07 4.14 2.76 2.6 Average Grade 3A: 0.77 0.68 0.70 0.40 0.6	12-0012-02	3A	0.86	0.85	0.73	0.41	0.73
Average Grade 3A: 0.77 0.68 0.70 0.40 0.6	12-0001-01	3A	1.08	0.97	1.01	0.40	1.0
	Average Grade 0:		3.13	3.07	4.14	2.76	2.6
Fold Difference: 4.08 4.55 5.91 6.82 4.2	Average Grade 3A:		0.77	0.68	0.70	0.40	0.6
	Fold Difference:		4.08	4.55	5.91	6.82	4.2

## B. CART classification model.



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REPLACEMENT SHEET

Figure 7 C. Surrogates for the CART classification model.

17 ref 4
)2 ref 2761
36 ref 2762
64 ref 3016
59 ref 2757
61 ref 2758

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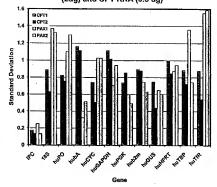
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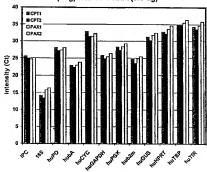
AND MONITORING TRANSPLANT REJECTION REPLACEMENT SHEET

Figure 11

A... Variation of Control Genes from PAX RNA (2ug) and CPT RNA (0.5 ug)



B. Intensity of Control Genes from PAX RNA (2ug) and CPT RNA (0.5 ug)



Gene